

IN THE CLAIMS

1. (currently amended) An external storage to be connected to a host computer, comprising:

storing means which stores data to be used by the host computer; and

control means which controls the storing means,

wherein the control means comprises:

registering means which registers a recoverable point to be set by the host computer concerning data stored in the storing means, said recoverable point corresponding to journal data which includes journal control information having information necessary for recovering data on the storing means to the recoverable point and a recovery flag which is settable by the host computer to indicate that the journal data is a recoverable point;

information for selection sending means which sends information for selection related to the journal data at the registered recoverable point to the host computer in response to a request from the host computer; and

recovering means which recovers data designated by the host computer to a designated recoverable point based on the basis of the information for selection related to the journal data at the recoverable point.

2. (original) An external storage according to claim 1, wherein the registering means is capable of registering arbitrary plural points, which are set by the host computer, as the recoverable point.

3. (currently amended)An external storage according to claim 1, wherein the storing means has journal data storing means which stores writing data from the host computer as the journal data, and

wherein the registering, means associates ~~mark information~~ the journal control information with a predetermined position of the journal data based on the basis of an instruction from the host computer to thereby register the recoverable point.

4. (currently amended)An external storage according to claim 3, wherein the journal data includes at least writing data, a writing position, and the recovery flag information ~~serving as the mark~~ journal control information, and

~~the registering means sets predetermined recovery flag information in the journal data to thereby register the recoverable point.~~

5. (currently amended)An external storage according to claim 3, wherein the storing means has backup data storing means which stores backup data,

wherein the control means has journal data managing means, and

wherein, if in the case in which a free space of the journal data storing means has become insufficient, the journal data managing means transfers oldest journal data stored in the journal data storing means to the backup data storing means to increase the free space of the journal data storing means and notifies the host

computer that an oldest recoverable point among registered recoverable points has been changed.

6. (currently amended) An external storage according to claim 3, wherein the control means has journal data managing means, and

wherein, if in the case in which a free space of the journal data storing means has become insufficient, the journal data managing means uses an unused storage area in the storing means to automatically extend a logical size of the journal data storing means.

7. (currently amended) A data recovery method of recovering data of an external storage, which is connected to a host computer, in the external storage, comprising:

a registration step of registering a recoverable point which can be set to arbitrary plural points by the host computer concerning stored data, said recoverable point corresponding to journal data which includes journal control information having information necessary for recovering data on the storing means to the recoverable point and a recovery flag which is settable by the host computer to indicate that the journal data is a recoverable point;

a list transmission step of sending information for selection related to the journal data of the registered recoverable point to the host computer in response to a request from the host computer; and

a recovery step of recovering data designated by the host computer to a designated recoverable point based on the basis of the information for selection related to the journal data at the recoverable point.

8. (currently amended) A program, stored on a storage medium, for controlling an external storage connected to a host computer, wherein the external storage having storing means which stores data to be used by the host computer, and the program realizes, executed by on a computer of the external storage, comprising:

registering means which registers a recoverable point to be set to arbitrary plural points by the host computer concerning data stored in the storing means, said recoverable point corresponding to journal data which includes journal control information having information necessary for recovering data on the storing means to the recoverable point and a recovery flag which is settable by the host computer to indicate that the journal data is a recoverable point;

information for selection sending means which sends information for selection related to the journal data at the registered recoverable point to the host computer in response to a request from the host computer; and

recovering means which recovers data designated by the host computer to a designated recoverable point based on the basis of the information for selection related to the journal data at the recoverable point.

9. (currently amended)A program according to claim 8, ~~wherein the program, executed by the computer of the external storage, further comprising:~~
realizes

journal data managing means, which acquires journal data and stores the journal data in a journal data storage area of the storing means on a computer of the external storage, and

~~wherein the registering means associates mark the journal control~~ information with a predetermined position of the journal data ~~based on the basis of an instruction~~ from the host computer to thereby register the recoverable point.

10. (currently amended)A program according to claim 9, wherein, ~~if in the case in which~~ a free space of the journal data storage area has become insufficient, the journal data managing means transfers oldest journal data stored in the journal data storage area to backup data storage area of the storing means to increase the free space of the journal data storage area and notifies the host computer that an oldest recoverable point among registered recoverable points has been changed.

11. (currently amended)A program, stored on a storage medium, for controlling a host computer using an external storage, ~~wherein the program, executed by is a program for realizing, on the host computer, comprising:~~

registration instructing means which instructs and causes the external storage to register a recoverable point which can be set at arbitrary plural points concerning data stored in the external storage, said recoverable point corresponding to journal

data which includes journal control information having information necessary for recovering data on the storing means to the recoverable point and a recovery flag which is settable by the host computer to indicate that the journal data is a recoverable point;

information for selection requesting means which requests information for selection related to the journal data at the recoverable point registered in the external storage; and

recovery instructing means which instructs the external storage to recover desired data to a desired recoverable point based on the basis of the information for selection related to the journal data received from the external storage.

12. (new) A method of performing write control processing in an external storage to be connected to a host computer, said external storage including storing means which stores data to be used by the host computer and control means which controls the storing means, said method comprising the steps of:

upon receipt of a write request from the host computer, journal data is updated, said journal data includes journal control information having information necessary for recovering data on the storing means to a recoverable point and a recovery flag which is settable by the host computer to indicate that the journal data is a recoverable point;

performing a data recovery control processing including permitting a host computer to register a recoverable point;

judging whether there is sufficient free space in a journal data storing means for storing journal data;

if sufficient free space for storing journal data is not available on the journal data storing means, then conducting a journal data storing means management processing to obtain unused area from another location;

if sufficient free space for storing journal data is available on the journal data storing means, then writing the journal data in the journal data storing means and writing update data into the storing means;

informing the host computer that the writing processing has been completed;

judging whether a backup update flag is ON; and

if the backup update flag is ON, then notifying the host computer that the backup data has been updated and resetting the backup update flag to be OFF,

wherein said step of performing a data recovery control processing includes:

registering a recoverable point to be set by the host computer concerning data stored in the storing means, said recoverable point corresponding to journal data which includes the journal control information,

sending information for selection related to the journal data at the registered recoverable point to the host computer in response to a request from the host; and

recovering data designated by the host computer to a designated recoverable point based on the information for selection related to the journal data at the recoverable point.